WHAT IS CLAIMED IS:

1. A method for manufacturing a compound semiconductor optoelectronic device comprising steps of :

forming an optoelectronic device epitaxial wafer, said optoelectronic device epitaxial wafer containing a V-shaped pit due to threading dislocation;

forming an insulated isolation material in said V-shaped pit of said optoelectronic device epitaxial wafer; and

forming an electrode layer on said optoelectronic device epitaxial wafer having said insulated isolation material in said V-shaped pit for completing said optoelectronic device.

2. The method according to Claim 1 wherein said optoelectronic device epitaxial wafer includes an Al_2O_3 substrate, a n-GaN (Gallium-Nitride) layer, a MQW (Multi-Quantum-Well) layer, a p-AlGaN layer and a p-GaN layer.

3. The method according to Claim 1 wherein forming said insulated isolation material comprises steps of :

forming said insulated isolation material layer on said V-shaped surface; and

removing said insulated isolation material layer but leaving said insulated isolation material in said V-shaped pit.

4. The method according to Claim 3 wherein forming said insulated isolation material layer is by deposition.

5. The method according to Claim 4 wherein removing said i nsulated isolation material layer is by polishing.

6. The method according to Claim 4 wherein removing said i nsulated isolation material layer is by etching.

7. The method according to Claim 4 wherein removing said insulated isolation material layer is by reactive ion etching and said optoelectronic epitaxial wafer is inclined.

8. The method according to Claim 3 wherein forming said insulated isolation material layer is by coating an organic material.

9. A compound semiconductor optoelectronic device comprising:

an optoelectronic device epitaxial wafer, said optoelectronic device epitaxial wafer containing a V-shaped pit due to threading dislocation;

an insulated isolation material in said V-shaped pit of said optoelectronic device epitaxial wafer; and

an electrode layer on said optoelectronic device epitaxial wafer having said insulated isolation material in said V-shaped pit.

10. The device according to Claim 9 wherein said insulated isolation material is an organic material.

11. The device according to Claim 10 wherein said organic material is polyimide, epoxy, or benzocyclobutene, etc.

12. The device according to Claim 9 wherein said insulated isolation material is an inorganic material.

13. The device according to Claim 12 wherein said inorganic material is SiO_2, Si_3N_4, TiN, AlN, Al_2O_3, MgO, GaF_2, ZnS, SiC, etc.

14. The device according to Claim 9 wherein said optoelectronic device epitaxial wafer includes an Al_2O_3 substrate, a n-GaN (Gallium-Nitride) layer, a MQW (Multi-Quantum-Well) layer, a p-AlGaN layer and a p-GaN layer.

15. The device according to Claim 9 wherein said electrode layer includes a P type metal electrode, a N type metal electrode and a transparent conducting layer (TCL).